

**CONCEPTUAL RESTORATION PLAN
FOR DEGRADED ARTIFICIAL WETLAND
ASSOCIATED WITH PARCEL 9U
MARINA DEL REY**

**FOR THE
WOODFIN RESORT**

**CITY OF MARINA DEL REY
LOS ANGELES COUNTY, CALIFORNIA**

February 2006

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I. PROJECT DESCRIPTION and SUMMARY

The project site covers approximately 3.8 acres and includes an excavated depression in the southern portion of the property. The depression was created in 1984 during construction activities within an upland area that were abandoned and left unfinished. Areas outside the depression are vegetated with upland ruderal species. The excavated depression supports a mixture of plant species that exhibit a range relative to their wetland indicator status from upland (UPL) to obligate (OBL). The southern margin of the basin consists of a berm comprised of spoil materials excavated from the basin that supports narrow-leaf willow (*Salix exigua*, OBL) and upland grasses. Soils below the upper 0.6 feet to two feet of existing soil profile, which consist of dredge material deposited in the 1950s and early 1960s, appear to be relictual hydric soils that formed at depth prior to excavation of the basin. Limited areas within the upper two feet exhibit hydric soil characteristics that appear to have formed in place due to ponding, consistent with the depressional topography of the excavated basin.

A jurisdictional delineation conducted by Glenn Lukos Associates (GLA) in 2005 identified approximately 0.47 acre of wetlands within the excavated basin of which 0.26 acre consists of wetlands that exhibit positive indicators for wetland hydrology, hydrophytic vegetation and hydric soils and an additional 0.21 acre that lacked positive indicators for at least one of the three criteria but would still be considered wetland pursuant to California Coastal Act policies. In order to enhance the aquatic function of the excavated wetland basin, the applicant proposes a rehabilitation program for the basin that would include re-contouring, removal of non-native species, enhancement of the hydrological regime through creation of a muted tidal connection, and establishment of native coastal salt marsh habitat appropriate to the area, including special-status species that would enhance the overall value of the wetland. In addition to the restoration of the 0.47 acre saltwater marsh, the open space areas surrounding the marsh would be planted with species indicative of native habitats along the California coast such as coastal prairie, coastal sage scrub, coastal bluff scrub and maritime chaparral. These plantings will serve as a buffer for the saltwater marsh, and will provide educational opportunities for the public.

A. Location of Project

The 3.8-acre Parcel 9U is located in the City of Marina Del Rey, Los Angeles County, California [USGS 7.5' Venice, California quadrangle map at Township 2S, Range 15W, unsectioned], [Exhibit 1 – Regional Map]. The project is located north of Tahiti Way, west of Basin B of Marina Del Rey, east of Via Marina, and south of a residential development [Exhibit 2 – Vicinity Map]. According to the U.S. Geological Survey (USGS) topographic map of Venice, California [dated 1964 and photorevised in 1981], the Project area supports no blue-line streams. Adjoining properties consist of residential development and Basin B of Marina Del Rey.B.

B. Responsible Parties

Applicant: Woodfin Suites Hotels
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C. Areas to be Restored by Habitat Type

The excavated depression supports a mixture of native and non-native plant species that exhibit a range relative to their wetland indicator status from upland (UPL) to obligate (OBL), based at least in part with their location in the basin. The southern margin of the basin consists of a berm made up of spoil materials, which is presumed to have been created using material from the excavated basin. The berm supports narrow-leaf willow (*Salix exigua*, OBL) and upland grasses with ripgut brome (*Bromus diandrus*, UPL) as the most prevalent. The wettest (lowest) area in basin supports limited areas of alkali bulrush (*Scirpus maritimus*, OBL), alkali weed (*Cressa truxillensis*, FACW) and small patches of pickleweed (*Salicornia virginica*). Large portions of the basin exhibit little vegetation or support non-native five-hook bassia (*Bassia hyssopifolia*, FAC).

D. Type(s), Functions, and Values of the Areas to be Restored

The basin is artificial, having been created during previous construction efforts that were left unfinished. The basin is very deep, approximately eight feet below the ground surface on the adjacent portions of the site and only exhibits wetland conditions during high rainfall years. In dry

years, the basin exhibits upland characteristics. Other than very limited areas of native wetland habitat (alkali bulrush, alkali weed and pickleweed), the existing basin is either unvegetated or vegetated with non-native ruderal species such as five-hook bassia.

Hydrologic Functions

As noted, the artificial basin is very deep, well below the surface of the adjacent upland areas. Furthermore, because much of the site was subject to deposition of dredge material during construction of the marina, the substrate in much of the basin is sand that allows rapid percolation of rain water such in most years rainfall and local runoff from limited portions of the site do not result in ponded conditions. As such, the depression exhibits ponding only during above-average rainfall years and supports wetland plant during these years. During other years the basin supports a predominance of upland species.

Biogeochemical Functions

The vegetation located along the upper margins of the pool provides limited filtering of sediments and pollutants prior to entering the pool; however, as the ponded area is mostly unvegetated, the pool provides very limited water quality benefits. Furthermore, because the basin is a closed depression, there is no hydrologic connection with any areas offsite, limiting the effects of any biogeochemical functions to the site.

Functions Related to Habitat

The basin supports very limited habitat value for both native plants and animals. A small area of native alkali bulrush occurs within the deepest portion of the basin. Narrow-leaf willow occurs on the upland berm adjacent to the southern margin of the basin that lacks wetland hydrology and hydric soils. The limited area of willow habitat supports species common within the urban setting such as black phoebe, common mallard, and mourning dove.

II. GOAL OF RESTORATION

A. Type(s) of Habitat to be Created/Enhanced

The wetland basin to be enhanced was created during previous construction on the site, which left an eight-foot-deep depression. The depression exhibits only limited wetland function and other than approximately 150-200 square feet that is occupied by native alkali bulrush and alkali weed, the site is best characterized as “ruderal.” The goal of the restoration/enhancement program is to create coastal salt marsh habitat with a “muted” tidal regime that supports a suite of native plants that also exhibits enhanced functions for wildlife. Enhancement of the excavated depression would

include re-contouring of the depression and establishment of a muted tidal connection to provide enhanced hydrologic and habitat functions. Areas surrounding the basin would be planted with coastal prairie, coastal sage scrub, coastal bluff scrub and maritime chaparral plantings to provide a buffer zone for the restored saltwater marsh.

B. Functions and Values of Habitat to be Created/Enhanced

Hydrologic Functions

Hydrologic functions would be enhanced through re-contouring of the basin to raise the bottom elevation, in conjunction with establishment of a muted tidal connection. The muted tidal connection would be provided through installation of a pipe that would provide the tidal connection.¹ Establishment of more reliable hydrology will allow for introduction of a suite of native coastal salt marsh species set forth in Table 1 below.

Biogeochemical Functions

The current basin exhibits very limited biogeochemical function due to the limited amounts of vegetation. The enhanced basin would support more native vegetation and exhibit minimally higher levels of biogeochemical function.

Functions Related to Habitat

The primary focus of the habitat enhancement will be establishment of coastal salt marsh habitat typical of this region of southern California. The coastal salt marsh would be expected to support invertebrates, vertebrates (e.g. fish), along with a number of avian species including shorebirds, herons and egrets, and waterfowl commonly associated with salt marsh habitats. Provision of a native buffer that includes coastal prairie, coastal sage scrub, coastal bluff scrub and maritime chaparral elements will enhance the overall habitat value of the saltmarsh area.

C. Time Lapse

Enhancement would begin at the time project construction begins.

D. Estimated Total Cost

Table 1 below is a summary of the estimated cost for implementation including site preparation and plantings, five-year maintenance, and five-year monitoring of the 0.47 acre saltwater marsh

¹ The location and size of the tidal connection will be determined by a coastal engineer/hydrologist with experience in coastal salt marsh restoration/creation.

and surrounding coastal prairie, coastal sage scrub, coastal bluff scrub and maritime chaparral buffer areas. The cost estimate also includes hardscape that would be incorporated into the park. As described in more detail below, the buffers will be planted with upland species native to the area and the final plant palettes will be determined at the time detailed landscape plans are developed. A detailed breakdown of project costs is included as Appendix A.

TABLE 1 ESTIMATED RESTORATION COST FOR 0.47 ACRE SALTWATER MARSH AND SURROUNDING BUFFER AREA	
Task: Wetland Restoration	Cost
Final Contouring of Basin including establishment of muted tidal connection	N/A*
Mobilization	\$2,000
Site Preparation	\$440
Irrigation System	\$3,840
Plant Installation (includes cost of plants and seed/seed collection)	\$8,170
Project Maintenance (30 visits)	\$17,800
Project Monitoring (32 visits, annual reports)	\$55,460
Wetland Subtotal	\$87,710
Task: Upland Buffer Creation	
Mobilization	\$3,000
Site Preparation	\$660
Irrigation System	\$5,750
Plant Installation (includes cost of plants and seed/seed collection)	\$16,000
Project Maintenance (30 visits)	\$26,800
Project Monitoring (32 visits, annual reports)	\$57,360
Upland Buffer Subtotal	\$109,570

TABLE 1 ESTIMATED RESTORATION COST FOR 0.47 ACRE SALTWATER MARSH AND SURROUNDING BUFFER AREA	
Task: Non-Habitat Park Elements	
Hardscape Items	\$174,300
Irrigation	1,400
Plantings and Maintenance	46,700
Non-Habitat Park Elements Subtotal	\$222,400
TOTAL	\$419,680

* GLA estimates grading cost for contouring of the wetland basin with tidal connection via a piped inlet to range between \$25,000 and \$40,000; however, the cost is not included in the table as this needs to be confirmed by the project Civil Engineer. Assuming that GLA's assumptions are accurate, the wetland restoration would cost between \$112,00 and \$127,000.

IV. PROPOSED RESTORATION SITE

A. Location and Size of Restoration Area

The proposed restoration site is located in the southern portion of the site [see Exhibit 4], and covers approximately 0.47 acre of saltwater marsh plantings and 0.73 acre of coastal prairie, coastal sage scrub, coastal bluff scrub and maritime chaparral buffer plantings.

B. Ownership Status

The property is currently owned by the County of Los Angeles.

C. Present and Proposed Uses of Restoration Area

The proposed enhancement area is currently occupied by the degraded wetland basin and adjacent berm that is vegetated with the narrow-leaf willow. The basin currently provides limited hydrologic, biogeochemical and habitat functions typical of "seasonal pond" habitat. Establishment of a "muted" tidal regime would ensure substantially higher functions consistent with coastal salt marsh habitat. To ensure the permanent status of the enhancement area (a total of 0.47 acre) for habitat functions, the applicant will record a restrictive covenant in the form of a

conservation easement that will prevent development of the areas proposed for wetland enhancement

D. Jurisdictional Delineation

Data collected within the existing constructed basin [encompassed by the polygons depicted on Exhibit 3], exhibit vegetation, soils and hydrology that are consistent with the presence of wetlands. The wettest area supports alkali bulrush (*Scirpus maritimus*, OBL) and alkali weed (*Cressa truxillensis*, FACW) with the presence of the alkali bulrush as the strongest indicator for wetland conditions. In limited areas, hydric soil indicators appear to have formed in response to current site hydrological conditions including sulfidic odor and low chroma matrix. The areas that exhibit wetland vegetation, soils and hydrology cover approximately 0.26 acre.

Additional areas exhibit positive indicators for hydric soils or hydrophytic vegetation cover approximately 0.21 acre. Combined, the 0.26-acre area that exhibits characteristics consistent with the presence of a three-parameter wetland and 0.21-acre area total of 0.47 acre.

E. Present and Proposed Uses of All Adjacent Areas

Portions of the restoration site currently consist of an artificial wetland basin and willow-dominated berm. The remaining portion of the undeveloped site supports primarily ruderal, with dominant species in the upland portions including ripgut (*Bromus diandrus*), rattail fescue (*Vulpia myuros*), telegraph weed (*Heterotheca grandiflora*), slender wild oat (*Avena barbata*), hare barley (*Hordeum murinum* ssp. *leporinum*), soft chess (*Bromus hordeaceus*), garland chrysanthemum (*Chrysanthemum coronarium*), cheeseweed (*Malva parviflora*), white-stemmed filaree (*Erodium moschatum*), bur clover (*Medicago polymorpha*), sow-thistle (*Sonchus oleraceus*), small flower iceplant (*Mesembryanthemum nodiflorum*), Australian saltbush (*Atriplex semibaccata*), alkali heliotrope (*Heliotropium curassivicum*), and giant horseweed (*Conyza canadensis*). The surrounding land use is consists of developed areas.

V. IMPLEMENTATION PLAN

A. Rationale for Expecting Implementation Success

Re-contouring of the wetland area, along with establishment of a muted tidal connection, will include final elevations that include areas of low-, mid- and high-marsh elevations (ranging from approximately 1.5 to 4.0 feet MSL). Upland areas surrounding the basin will be planted with species common to coastal upland habitats such as coastal prairie, coastal sage scrub, coastal bluff scrub and maritime chaparral.

B. Responsible Parties

The applicant or the applicant's successors will be the responsible party.

C. Site Preparation and Invasive Plant Removal

Site preparation will be supervised by a qualified habitat restoration specialist, knowledgeable in coastal salt marsh restoration. Site preparation is to consist of grading necessary to re-contour the wetland area and establishment of elevations that include areas of low-, mid and high-marsh (1.5 to 4.0 MSL). During grading, the seed bank consisting of non-native species will be removed. Grading will be conducted to create the microtopography typically found in coastal salt marsh at the direction of the habitat restoration specialist.

D. Planting Design

Expanded and enhanced coastal salt marsh habitat would be planted within the enhanced wetland area as set forth in Table 2. These species would replace the non-native species removed during site preparation. The proposed low and mid-marsh species would be planted in zones of appropriate wetness. Variations in microtopography within the basin will allow for establishment of mosaic of coastal salt marsh habitat. Upland areas surrounding the enhanced wetland will be planted with species native to coastal prairie, coastal sage scrub, coastal bluff scrub and maritime chaparral habitats (Tables 3, 4, 5 & 6).

E. Plant Palette

All of the coastal salt marsh plants included in the planting palette (Table 2) are able to tolerate periods of tidal inundation alternating with brief periods of drying. The coastal prairie, coastal sage scrub, coastal bluff scrub and maritime chaparral plantings located in the areas surrounding the wetland area are adapted to seasonally dry conditions of coastal southern California. Initial planting will be accomplished during the fall.

F. Source of Plant Material

Plant materials will be obtained from a local nursery or seed source specializing in the cultivation of native coastal salt marsh plants.

G. Plant Installation

Container stock will be installed by a contractor specializing in the restoration of habitats native to southern California. Planting will be accomplished by digging a hole approximately twice the depth and width of the plant container. The planting hole will be filled with water and allowed to

drain prior to planting. A small amount of backfill will be placed in the hole and lightly tamped down prior to placing the container stock. The plant root ball will be placed on the backfill and the area will be backfilled entirely while applying water to the backfill soil.

H. Erosion Control

Appropriate erosion control measures will be used during plant establishment. This will include use of BMPs such as jute netting on slopes to hold soil in place during the establishment period. Erosion control measures will be focused on the basin slope, as significant erosion is not expected to occur within the low-gradient basin floor. Should erosion be observed during site monitoring efforts, corrective measures will be applied.

I. As-Built Conditions

The applicant will submit a report (including site photographs and a narrative that addresses the enhancement/creation activities) to the Coastal Commission Executive Director within 30 days of completion of site preparation and planting, describing as-built status of the Enhancement project.

**Table 2
Plant Palette for Restored Coastal Salt Marsh**

Plant Species	Container Size	Spacing
Low-Marsh		
California Cord Grass (<i>Spartina foliosa</i>)	1 gal	3 foot o.c. (clumped)
Saltwort (<i>Batis maritima</i>)	1 gal	6 foot o.c. (scattered)
Mid-Marsh		
Common Pickleweed (<i>Salicornia virginica</i>)	1 gal	3 foot o.c. (scattered)
Alkali Heath (<i>Frankenia salina</i>)	1 gal	3 foot o.c. (scattered)
Fleshy Jaumea (<i>Jaumea carnosa</i>)	1 gal	3 foot o.c. (scattered)
Saltgrass (<i>Distichlis spicata</i>)	1 gal	3 foot o.c. (clumped)
Upper-Marsh		
Parish's Saltwort (<i>Arthrocnemum subterminalis</i>)	1 gal	3 foot o.c. (perimeter)
Southwestern Spiny Rush (<i>Juncus acutus leopoldi</i>)	1 gal	3 foot o.c. (perimeter)

**Table 3
Plant Palette for Coastal Prairie**

Plant Species	Container Size	Spacing
Container Plants		
Wild hyacinth (<i>Dichelostema capitatum</i>)	Rosepots	3 foot o.c. (scattered)
Coastal goldenbush (<i>Isocoma menziesii</i>)	1 gal	8 foot o.c. (scattered)
Mesa horkelia (<i>Horkelia cuneata</i>)	1 gal	3 foot o.c. (scattered)
Wishbone bush (<i>Mirabilis californica</i>)	1 gal	10 foot o.c. (scattered)
Coast range melic (<i>Melica californica</i>)	Liners	2 foot o.c. (clumped)
Purple needlegrass (<i>Nassella pulchra</i>)	Liners	2 foot o.c. (clumped)
Blue eyed grass (<i>Sisyrinchium bellum</i>)	Rosepots	2 foot o.c. (clumped)
Seed Mix		
Bentgrass (<i>Agrostis pallens</i>)	seed	
Common goldenstar (<i>Bloomeria crocea</i>)	seed	
California goldfields (<i>Lasthenia californica</i>)	seed	
Foothill needlegrass (<i>Nassella lepida</i>)	seed	
Dot seed plantain (<i>Plantago erecta</i>)	seed	
Blue eyed grass (<i>Sisyrinchium bellum</i>)	seed	

**Table 4
Plant Palette for Coastal Sage Scrub and Coastal Bluff Scrub**

Plant Species	Container Size	Spacing
Container Plants		
California sagebrush (<i>Artemisia californica</i>)	1 gal	5 foot o.c. (scattered)
Brewer's saltbush (<i>Atriplex lentiformis breweri</i>)	1 gal	8 foot o.c. (scattered)
Encelia californica (<i>Encelia californica</i>)	1 gal	5 foot o.c. (scattered)
Buckwheat (<i>Eriogonum fasciculatum</i>)	1 gal	5 foot o.c. (scattered)
Sea cliff buckwheat (<i>Eriogonum parvifolium</i>)	1 gal	6 foot o.c. (scattered)
California Boxthorn (<i>Lycium californica</i>)	1 gal	6 foot o.c. (clumped)
Purple needlegrass (<i>Nassella pulchra</i>)	Liners	2 foot o.c. (clumped)
Coast prickly pear (<i>Opuntia prolifera</i>)	1 gal	8 foot o.c. (clumped)
Lemonade berry (<i>Rhus integrifolia</i>)	1 gal	20 foot o.c. (clumped)
Seed Mix		
Wild hyacinth (<i>Dichelostema capitatum</i>)	seed	
Buckwheat (<i>Eriogonum fasciculatum</i>)	seed	
Foothill needlegrass (<i>Nassella lepida</i>)	seed	
Purple needlegrass (<i>Nassella pulchra</i>)	seed	
Blue eyed grass (<i>Sisyrinchium bellum</i>)	seed	

Table 5
Plant Palette for Maritime Chaparral

Plant Species	Container Size	Spacing
Container Plants		
Big-pod ceanothus (<i>Ceanothus megacarpus</i>)	1 gal	8 foot o.c. (scattered)
Little-leaved Redberry (<i>Rhamnus crocea</i>)	1 gal	5 foot o.c. (scattered)
Toyon (<i>Heteromeles arbutifolia</i>)	1 gal	8 foot o.c. (scattered)
Lemonadeberry (<i>Rhus integrifolia</i>)	1 gal	8 foot o.c. (scattered)
Southern California dudleya (<i>Dudleya lanceolata</i>)	1 gal	4 foot o.c. (clumped)
California fuschia (<i>Epilobium canum</i>)	1 gal	5 foot o.c. (clumped)
Coast Buckwheat (<i>Eriogonum parviflorum</i>)	1 gal	5 foot o.c. (clumped)
Fuschia flowering gooseberry (<i>Ribes speciosum</i>)	1 gal	10 foot o.c. (scattered)
Seed Mix		
Bentgrass (<i>Agrostis pallens</i>)	seed	
Common goldenstar (<i>Bloomeria crocea</i>)	seed	
Splendid mariposa lily (<i>Calochortus splendens</i>)	seed	
Pink gnaphalium (<i>Gnaphalium ramososimum</i>)	seed	
Collard annual lupine (<i>Lupinus truncatus</i>)	seed	

VI. MAINTENANCE DURING MONITORING PERIOD

A. Maintenance Activities

The purpose of this program is to ensure the success of the enhancement/ creation program. Maintenance will occur over the life of the project (five years). As the weed eradication and plant installation is completed, the habitat restoration specialist will schedule a meeting with key members of the landscape maintenance crew in order to identify proper maintenance procedures. The following tasks will be performed as general maintenance duties:

1. Weeding

Weeding will be conducted monthly during the first six months of the project and quarterly during years two through five, or as necessary and as directed by the Project Restoration Specialist. Because the salt marsh habitat will support a predominance of species that are not commonly recognized by landscape contractors, training will be necessary to ensure that target species are not inadvertently removed during weeding. Furthermore, because the non-native seed bank will be

removed and tidal inundation will suppress many of the common weeds, the amount of weeding may be very limited and as such will be coordinated by the project biologist.

2. Plant Replacement

Dead or damaged container stock will be replaced during the first year as necessary to ensure compliance with the performance standards.

3. Pruning and Staking

None of the target species will require pruning or staking.

4. Trash Removal

Trash removal will be conducted during weeding and other maintenance visits.

5. Tree Protection

None of the shrub species selected are expected to require special protection.

B. Responsible Parties

The Applicant or its successors will be responsible for financing and carrying out maintenance activities. The applicant may assign the maintenance responsibilities to an appropriate contractor, but will retain ultimate responsibility for maintenance of the Enhancement site.

C. Schedule

As noted, weed control may be limited; however, as determined necessary by the project biologist, weeding will be conducted on an as-needed basis during the dry-phased of the basin during the first season of the project and each following year as needed. As the first season passes into the summer and fall the weed problem is expected to decrease, and, depending on the health and spread of the desired plants, the weed maintenance schedule will likely lighten into the second year of project with a decreasing through the life of the monitoring program.

VII. MONITORING PLAN

Monitoring will focus on characteristics of the coastal salt marsh, coastal prairie, coastal sage scrub, coastal bluff scrub and maritime chaparral.

A. Initial Monitoring Effort

Vegetation will be monitored following installation of the container stock. The initial biological and ecological status of the site will be established and the as-built condition of the site will be documented. Long-term monitoring of the site will begin following this initial assessment.

B. Performance Criteria

The success of a restoration site is defined as the restoration of a functional ecosystem. Success is usually measured by percent coverage by target species. While a fully successful restoration and enhancement plan might be viewed as one that results in 100-percent coverage, such coverage is unlikely. Natural habitats rarely exhibit 100-percent coverage, but rather include a considerable proportion of open spaces.

The means of determining successful restoration for this site will be through series of measurements for native cover and diversity, exotic species cover, and use by resident and non-resident nekton. All of these, except non-native species cover, should increase over time. Cover by non-native species should be the opposite; it should decrease with time, particularly because one of the primary goals of the project is to substantially reduce or eliminate non-native species from the site.

After the initial grading, site preparation, and planting effort has been completed, the Restoration area will be monitored by the project monitor on a monthly basis for the 12 months and quarterly for the remainder of the monitoring period. Qualitative surveys, consisting of a general site walkover and habitat characterization, will be completed during each monitoring visit. General observations, such as fitness and health of the planted species, pest problems, weed persistence/establishment, mortality, and drought stress, will be noted in each site walkover. The Project Monitor will determine remedial measures necessary to facilitate compliance with performance standards.

As habitat for wildlife is a stated Final Success Criteria of this plan, notes regarding wildlife usage will be collected during each visit. Based on current wildlife use of the site as well as the location of the site, it is expected that wildlife use will primarily consist of foraging by shorebirds, herons, egrets and waterfowl.

Quantitative data will be collected annually using accepted vegetative sampling methods in order to evaluate survivorship, species coverage, and species composition.

In the event that plantings should fail to meet the specified requirements, compliance will be ensured by the performance of either or both of the following remedial procedures by the contractor on an as-needed basis as directed by the Project Monitor: (1) replacing unsuccessful plantings with appropriate-sized stock or seed mixes to meet stated cover or survival requirements, and /or (2) performing maintenance procedures to ensure the site conditions are appropriate (e.g., non-native species removal). Remedial actions in planting areas shall be based on detailed investigations (such as soil tests and excavations of failed plantings to examine root development) to determine causes of failure. If substantial non-compliance with the performance occurs, the applicant will consult the California Coastal Commission to determine whether corrective measures and an extension of the five-year monitoring period will be necessary.

Vegetation Performance Standards

Saltwater Marsh Plantings

First-Year Monitoring

Success Standard: 30-percent coverage of native species (5-percent deviation allowed);
At least 80-percent of the planted species will be represented in the restoration site;
No more than 10-percent coverage by non-native plant species

Second-Year Monitoring

Success Standard: 40-percent coverage of native species (<5-percent deviation allowed);
At least 80-percent of the planted species will be represented in the restoration site;
No more than Five-percent coverage by non-native plant species

Third-Year Monitoring

Success Standard: 50-percent coverage of native species (<5-percent deviation allowed);
At least 80-percent of the planted species will each attain at least five-percent cover of the total native cover;
No more than Five-percent coverage by non-native plant species

Fourth-Year Monitoring

Success Standard: 60-percent coverage of native species (<5-percent deviation allowed);
At least 80-percent of the planted species will each attain at least five-percent cover of the total native cover;
No more than Five-percent coverage by non-native plant species

Fifth-Year Monitoring

Success Standard: 75-percent coverage of native species (<5-percent deviation allowed);
At least 80-percent of the planted species will each attain at least five-percent cover of the total native cover;
No more than five-percent coverage by non-native plant species

Coastal Prairie Plantings**First-Year Monitoring**

Success Standard: 35-percent coverage of native species (5-percent deviation allowed);
At least 80-percent of the planted species will be represented in the restoration site;
No more than 10-percent coverage by non-native plant species

Second-Year Monitoring

Success Standard: 50-percent coverage of native species (<5-percent deviation allowed);
At least 80-percent of the planted species will be represented in the restoration site;
No more than Five-percent coverage by non-native plant species

Third-Year Monitoring

Success Standard: 60-percent coverage of native species (<5-percent deviation allowed);
At least 80-percent of the planted species will each attain at least five-percent cover of the total native cover;
No more than Five-percent coverage by non-native plant species

Fourth-Year Monitoring

Success Standard: 70-percent coverage of native species (<5-percent deviation allowed);
At least 80-percent of the planted species will each attain at least five-percent cover of the total native cover;
No more than Five-percent coverage by non-native plant species

Fifth-Year Monitoring

Success Standard: 80-percent coverage of native species (<5-percent deviation allowed);
At least 80-percent of the planted species will each attain at least five-percent cover of the total native cover;
No more than five-percent coverage by non-native plant species

Coastal Sage Scrub, Coastal Bluff Scrub and Maritime Chaparral Plantings

First-Year Monitoring

Success Standard: 35-percent coverage of native species (5-percent deviation allowed);
No more than 10-percent coverage by non-native plant species

Second-Year Monitoring

Success Standard: 50-percent coverage of native species (<5-percent deviation allowed);
No more than Five-percent coverage by non-native plant species

Third-Year Monitoring

Success Standard: 60-percent coverage of native species (<5-percent deviation allowed);
No more than Five-percent coverage by non-native plant species

Fourth-Year Monitoring

Success Standard: 70-percent coverage of native species (<5-percent deviation allowed);
No more than Five-percent coverage by non-native plant species

Fifth-Year Monitoring

Success Standard: 80-percent coverage of native species (<5-percent deviation allowed);
No more than five-percent coverage by non-native plant species

C. Monitoring Methods

Monitoring will assess the attainment of annual and final success criteria and identify the need to implement contingency measures in the event of failure. Vegetation monitoring methods include field-sampling techniques that are based upon the California Native Plant Society field sampling protocol.² Please refer to *A Manual of California Vegetation* for further details on this sampling method.

1. Vegetation Monitoring

Vegetation monitoring shall be conducted during the active growing season in September of every year. Monitoring shall be performed by a qualified habitat restoration specialist, biologist, or horticulturist with appropriate credentials and experience in native habitat restoration. Continuity within the personnel and methodology of monitoring shall be maintained insofar as possible to ensure comparable assessments. Records will be kept of mortality and other problems, such as insect damage. Other potential site problems, such as weed infestation and soil loss, will also be

² Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society.

identified by the project monitor. Remedial measures undertaken will be referenced in the annual report to the Executive Director of the California Coastal Commission.

Sampling Techniques

Sampling protocols for the restoration area is described below.

Quantitative sampling within the restoration area will be performed using two-decimeter quadrats that will be placed randomly throughout the site. Placement of quadrats will be determined using random numbers tables to provide two coordinates, one that indicates the distance along a longitudinal centerline bisecting the site and one that determines the distance from the line. Plots will be placed on alternating sides of the centerline and perpendicular to the centerline. Vegetative cover will be visually estimated within the quadrat for each species present, and recorded on a data sheet. Any species observed during the sampling that does not fall within a quadrat will be recorded and included on the list of species for the restoration site. At least 30 replicates will be initially sampled. Sample variance from data collection in years one through three will be used to determine if 30 samples is adequate. If a power analysis indicates that more than 30 samples are required, additional transects or quadrats will be added. If power analysis indicates that fewer than 30 samples are required, the number of quadrats will be reduced. Sampling will be conducted with sufficient replication to detect a 10% difference in absolute ground cover between the mean of the restoration and the success standard with 90% power at an alpha level of 0.10. The mean native cover for the restoration site will be compared to the performance criteria at the end of five years using an appropriate inferential test such as a single-sample t-test. The mean cover for the restoration site will be considered to meet the performance criteria if the resulting alpha level is greater than 0.10.

Photo-Documentation

Several permanent stations for photo-documentation of the restoration area will be established. Photos shall be taken each monitoring period from the same vantage point and in the same direction each year, and shall reflect material discussed in the annual monitoring report.

Final Success Criteria Resolution

If the project meets all success criteria at the end of the five-year monitoring period, the habitat creation will be considered a success. If not, the maintenance and monitoring program will be extended one full year at a time and a specific set of remedial measures, approved by the Executive Director of the California Coastal Commission, will be implemented until the standards are met. Only those areas that fail to meet the success criteria will require additional work. This process will continue until all year-five standards are met or until the Executive Director of the California Coastal Commission determines that other re-vegetation measures are appropriate.

Final success criteria will not be considered to have been met until a minimum of three years after all human support (excluding routine weeding), including irrigation, has ceased. Should the re-vegetation effort meet all goals prior to the end of the five-year monitoring period, the Executive Director of the California Coastal Commission, at his discretion, may terminate the monitoring effort.

The permittee recognizes that failure to meet success criteria may result in the requirement to replace that portion of failed Enhancement.

D. Annual Reports

At the end of each of the five monitoring period growing seasons following the “as-built” assessment, an annual report will be prepared for submittal to the Executive Director of the California Coastal Commission. These reports will assess both attainment of yearly target criteria and progress toward final success criteria. These reports will include the following:

- a list of names, titles, and companies of all persons who prepared the content of the annual report and participated in monitoring activities for that year
- an analysis of all qualitative monitoring data
- copies of monitoring photographs
- maps identifying monitoring areas, transects, planting zones, etc. as appropriate.
- copies of all previous reports

E. Schedule

Annual Reports will be submitted by December 31 of each year for the year in which quantitative sampling was performed.

VIII. COMPLETION OF RESTORATION

A. Notification of Completion

When the initial monitoring period is complete, and if the applicant believes final success criteria have been met, the applicant will notify the Executive Director of the California Coastal Commission by submitting a Final Monitoring Report that documents this completion. The final

performance monitoring will take place after the five-year monitoring period is complete or after at least three years without remediation or maintenance other than weeding, whichever is longer.

B. Agency Confirmation

Following receipt of the final report, the applicant will, at the request of the Executive Director of the California Coastal Commission, provide access and guidance through the project site to confirm the adequate completion of the habitat creation effort.

C. Contingency Plan

Should any portion of the restoration site fail to meet the final success criteria after the five-year monitoring period, an alternate restoration plan will be developed to compensate for the failed areas. The alternate plan will be submitted to the Coastal Commission for approval within 90 days after submitting the Final Monitoring Report.

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Woodfin Suites Saltwater Marsh and Nature Garden Cost Estimate

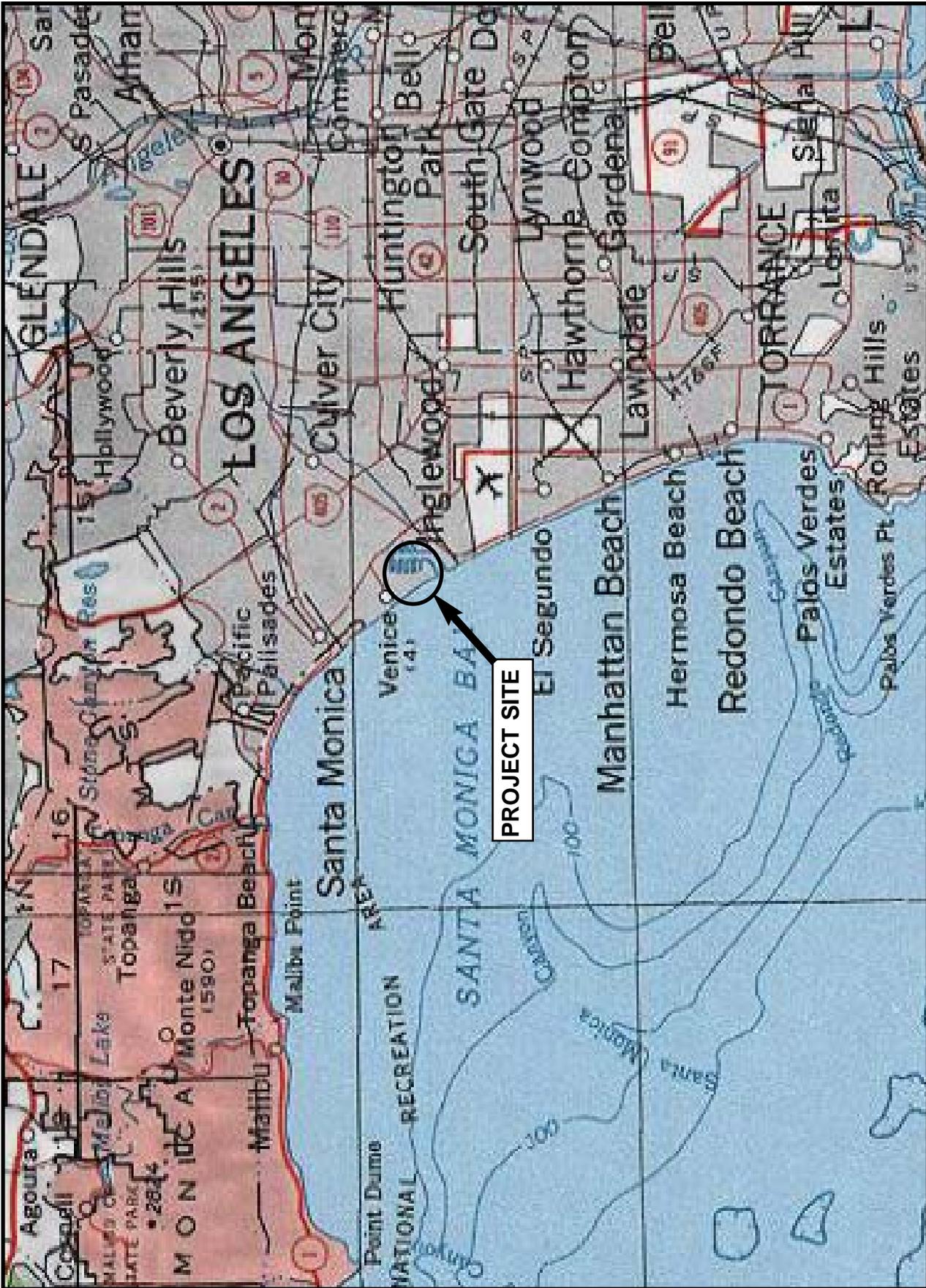
No.	Item Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization, demobilization & cleanup	1.0	each	\$ 5,000.00	\$ 5,000.00
	Subtotal				\$ 5,000.00
2	Clearing, grubbing, exotic control, site preparation	1.5	acre	\$ 700.00	\$ 1,029.00
	Subtotal				\$ 1,029.00
3	Grading				
	Construct tidal connection to marina			per engineer	\$ -
	Over excavation and re-construction of marsh			per engineer	\$ -
	Fine grading of berms, walkways, paving areas			per engineer	\$ -
	Subtotal				\$ -
4	Hardscape Items				
	Wood overheads	2.0	ea.	\$ 12,000.00	\$ 24,000.00
	Trash receptacle	3.0	ea.	\$ 500.00	\$ 1,500.00
	Tables	3.0	ea.	\$ 1,800.00	\$ 5,400.00
	24"-36" height stucco walls	80.0	l.f.	\$ 110.00	\$ 8,800.00
	Educational signage		allow	\$ 5,000.00	\$ 5,000.00
	Decomposed granite path w/ cement binder	4,950.0	sq. ft.	\$ 6.00	\$ 29,700.00
	Redwood header	2,050.0	l.f.	\$ 1.25	\$ 2,562.50
	Colored concrete steps	85.0	l.f.	\$ 55.00	\$ 4,675.00
	Colored concrete paving	200.0	sq. ft.	\$ 10.00	\$ 2,000.00
	Upgraded paving at education areas	335.0	sq. ft.	\$ 45.00	\$ 15,075.00
	Turfblock/upgraded paving	1,450.0	sq. ft.	\$ 45.00	\$ 65,250.00
	Upgraded paving at dining patio	200.0	sq. ft.	\$ 45.00	\$ 9,000.00
	Concrete band	110.0	l.f.	\$ 12.00	\$ 1,320.00
	Subtotal				\$ 174,282.50
5	Irrigation System				
	Materials and installation of temporary system	1.2	acre	\$ 8,000.00	\$ 9,600.00
	Materials and installation of permanent system	0.14	acre	\$ 10,000.00	\$ 1,400.00
	Subtotal				\$ 11,000.00
6	Saltwater Marsh Plantings (0.47 acre)				
	Pin-flags	875.0	ea.	\$ 0.08	\$ 70.00
	One-gallon Container Stock w/fertilizer & mulch	575.0	ea.	\$ 11.50	\$ 6,612.50
	Rosepots	50.0	ea.	\$ 6.25	\$ 312.50
	Plugs	250.0	ea.	\$ 4.00	\$ 1,000.00
	Mycorrhizal inoculum (60 ltrs/acre)	28.2	ltrs.	\$ 6.20	\$ 174.84
	Subtotal				\$ 8,169.84
7	Coastal Prairie Plantings (0.34 acre)				
	Seed collection	10.2	lbs.	\$ 90.00	\$ 918.00
	Pin-flags	700.0	ea.	\$ 0.08	\$ 56.00

Woodfin Suites Saltwater Marsh and Nature Garden Cost Estimate

No.	Item Description	Quantity	Unit	Unit Cost	Total Cost
8	Coastal Sage Scrub Plantings (0.14 acre)				
	Seed collection	3.0	lbs.	\$ 90.00	\$ 270.00
	Pin-flags	250.0	ea.	\$ 0.08	\$ 20.00
	One-gallon Container Stock w/fertilizer & mulch	200.0	ea.	\$ 11.50	\$ 2,300.00
	Rosepots	50.0	ea.	\$ 6.25	\$ 312.50
	Hand broadcast seed & rake into top 1/2 inch soil	6,098.4	sq.ft.	\$ 0.09	\$ 548.86
	Mycorrhizal inoculum (60 ltrs/acre)	8.4	ltrs.	\$ 6.20	\$ 52.08
	Subtotal				\$ 3,503.44
9	Coastal Bluff Scrub Plantings (0.16 acre)				
	Seed collection	3.5	lbs.	\$ 90.00	\$ 315.00
	Pin-flags	285.0	ea.	\$ 0.08	\$ 22.80
	One-gallon Container Stock w/fertilizer & mulch	225.0	ea.	\$ 11.50	\$ 2,587.50
	Rosepots	60.0	ea.	\$ 6.25	\$ 375.00
	Hand broadcast seed & rake into top 1/2 inch soil	6,969.6	sq.ft.	\$ 0.09	\$ 627.26
	Mycorrhizal inoculum (60 ltrs/acre)	9.6	ltrs.	\$ 6.20	\$ 59.52
	Subtotal				\$ 3,987.08
10	Maritime Chaparral Plantings (0.09 acre)				
	Seed collection	2.0	lbs.	\$ 90.00	\$ 180.00
	Pin-flags	160.0	ea.	\$ 0.08	\$ 12.80
	One-gallon Container Stock w/fertilizer & mulch	125.0	ea.	\$ 11.50	\$ 1,437.50
	Rosepots	35.0	ea.	\$ 6.25	\$ 218.75
	Hand broadcast seed & rake into top 1/2 inch soil	3,920.4	sq.ft.	\$ 0.09	\$ 352.84
	Mycorrhizal inoculum (60 ltrs/acre)	5.4	ltrs.	\$ 6.20	\$ 33.48
	Subtotal				\$ 2,235.37
11	Other plantings				
	72" Box trees	1.0	ea.	\$ 5,200.00	\$ 5,200.00
	48" Box trees	8.0	ea.	\$ 1,300.00	\$ 10,400.00
	36" Box trees	8.0	ea.	\$ 550.00	\$ 4,400.00
	24" Box trees	10.0	ea.	\$ 225.00	\$ 2,250.00
	15 gallon shrubs for screening hedge	200.0	ea.	\$ 65.00	\$ 13,000.00
	Turf along Via Marina and Tahiti Way	2,900.0	sq. ft.	\$ 0.50	\$ 1,450.00
	Subtotal				\$ 36,700.00
12	Project Maintenance (1.47 acre)				
	Year 1: \$800/acre per/month	1.5	acre	800.00	\$ 14,112.00
	Year 2: \$700/acre per/month	1.5	acre	700.00	\$ 12,348.00
	Year 3: \$600/acre per/month	1.5	acre	600.00	\$ 10,584.00
	Year 4: \$500/acre per/month	1.5	acre	500.00	\$ 8,820.00
	Year 5: \$500/acre per/month	1.5	acre	500.00	\$ 8,820.00
	Subtotal				\$ 54,684.00

Woodfin Suites Saltwater Marsh and Nature Garden Cost Estimate

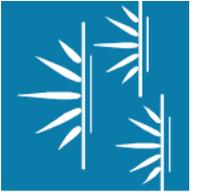
No.	Item Description	Quantity	Unit	Unit Cost	Total Cost
13	Monitoring (0.47 acre saltwater marsh only)				
	Year 1 monthly monitoring + report (monthly site visit includes 3 hours travel, 2 hour onsite and 2 hours followup memo @ \$105/hour)	12.0	visit	\$ 735.00	\$ 8,820.00
	Year 2 monthly/quarterly monitoring + report	8.0	visit	\$ 735.00	\$ 5,880.00
	Year 3 quarterly monitoring + report	4.0	visit	\$ 735.00	\$ 2,940.00
	Year 4 quarterly monitoring + report	4.0	visit	\$ 735.00	\$ 2,940.00
	Year 5 quarterly monitoring + report	4.0	visit	\$ 735.00	\$ 2,940.00
	Year 1 Coordination (includes preparation of PVC poles)	8.0	hour	\$ 105.00	\$ 840.00
	Year 1 annual monitoring (includes 3 hours travel, 1.1hr/transect (2 total), 1 hour lunch for each person) @ \$105+\$85/hr	6.0	hour	\$ 190.00	\$ 1,140.00
	Year 2 annual monitoring	6.0	hour	\$ 190.00	\$ 1,140.00
	Year 3 annual monitoring	6.0	hour	\$ 190.00	\$ 1,140.00
	Year 4 annual monitoring	6.0	hour	\$ 190.00	\$ 1,140.00
	Year 5 annual monitoring	6.0	hour	\$ 190.00	\$ 1,140.00
	Write/prepare Annual Reports (includes exhibits)	5.0	ea.	\$ 5,080.00	\$ 25,400.00
	Subtotal				\$ 55,460.00
13	Monitoring (0.73 acre upland habitats)				
	Year 1 monthly monitoring + report (monthly site visit includes 3 hours travel, 2 hour onsite and 2 hours followup memo @ \$105/hour)	12.0	visit	\$ 735.00	\$ 8,820.00
	Year 2 monthly/quarterly monitoring + report	8.0	visit	\$ 735.00	\$ 5,880.00
	Year 3 quarterly monitoring + report	4.0	visit	\$ 735.00	\$ 2,940.00
	Year 4 quarterly monitoring + report	4.0	visit	\$ 735.00	\$ 2,940.00
	Year 5 quarterly monitoring + report	4.0	visit	\$ 735.00	\$ 2,940.00
	Year 1 Coordination (includes preparation of PVC poles)	8.0	hour	\$ 105.00	\$ 840.00
	Year 1 annual monitoring (includes 3 hours travel, 1.1hr/transect (1 transect per habitat type - 4 hrs total), 1 hour lunch for each person) @ \$105+\$85/hr	8.0	hour	\$ 190.00	\$ 1,520.00
	Year 2 annual monitoring	8.0	hour	\$ 190.00	\$ 1,520.00
	Year 3 annual monitoring	8.0	hour	\$ 190.00	\$ 1,520.00
	Year 4 annual monitoring	8.0	hour	\$ 190.00	\$ 1,520.00
	Year 5 annual monitoring	8.0	hour	\$ 190.00	\$ 1,520.00
	Write/prepare Annual Reports (includes exhibits)	5.0	ea.	\$ 5,080.00	\$ 25,400.00
	Subtotal				\$ 57,360.00
	TOTALS				\$ 419,679.64



Adapted from National Geographic TOPO!



MILES



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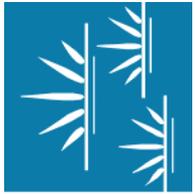
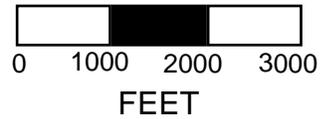
EXHIBIT 1

PARCEL 9U

Regional Map



Adapted from USGS Venice quadrangle

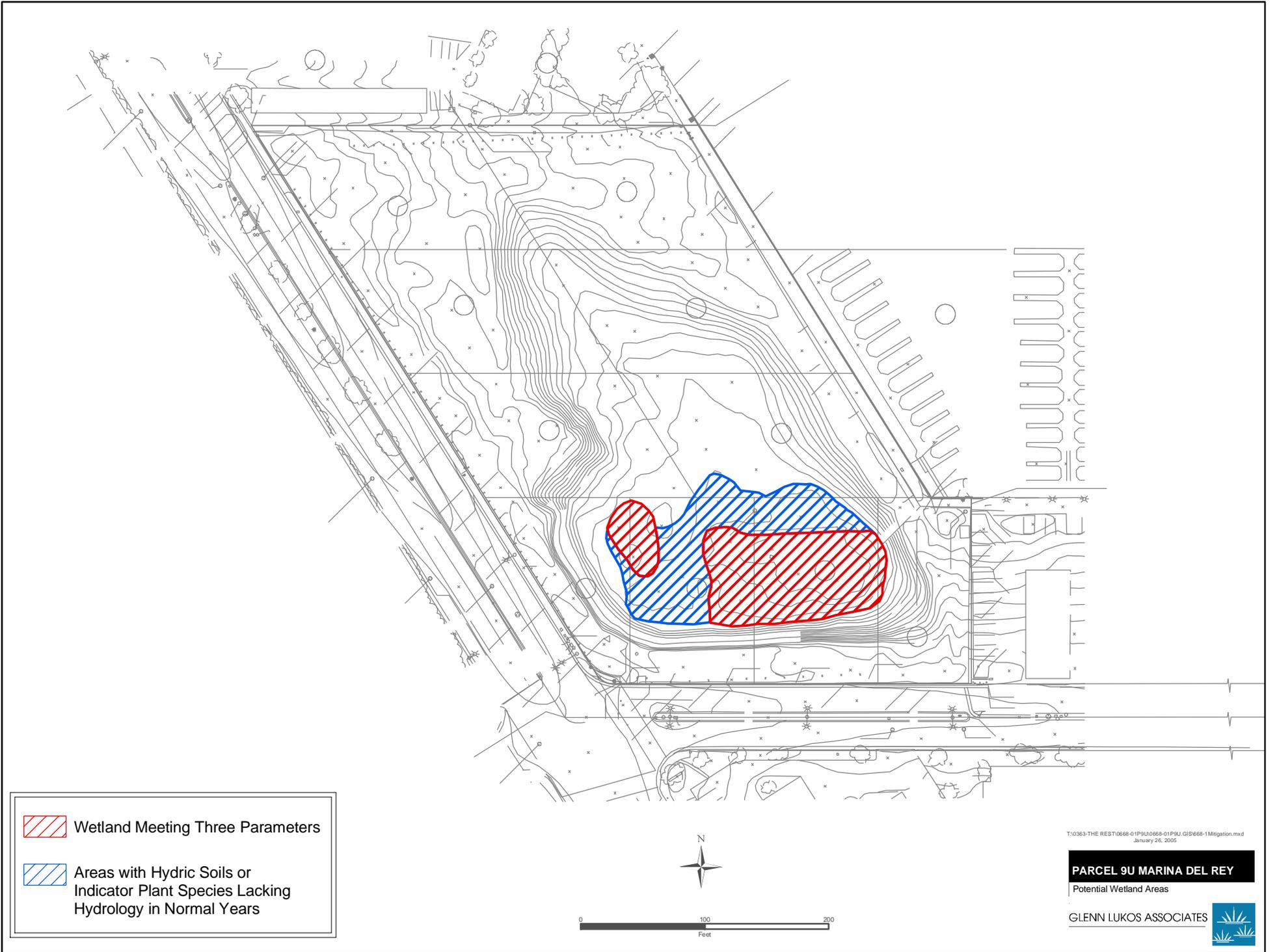


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EXHIBIT 2

PARCEL 9U

Vicinity Map



 Wetland Meeting Three Parameters

 Areas with Hydric Soils or
Indicator Plant Species Lacking
Hydrology in Normal Years



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January 26, 2005

PARCEL 9U MARINA DEL REY
Potential Wetland Areas

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